

**REMARKS**

In the final Office Action<sup>1</sup>, the Examiner rejected claims 1-22 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent Application Publication No. 2002/0071593 to Muratani (“Muratani”) in view of U.S. Patent Application Publication No. 2002/0009208 to Alattar et al. (“Alattar”).

By this Amendment, Applicant have amended claims 1, 2, 10, 11, and 19-22. Claims 1-22 are pending and under current examination.

**I. The Rejection of Claims 1-22 under 35 U.S.C. § 103(a)**

Applicant respectfully traverses the rejection of claims 1-22 under 35 U.S.C. § 103(a). A *prima facie* case of obviousness has not been established.

The key to supporting any rejection under 35 U.S.C. § 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. See M.P.E.P. § 2142, 8th Ed., Rev. 6 (Sept. 2007). Such an analysis should be made explicit and cannot be premised upon mere conclusory statements. See *id.* “A conclusion of obviousness requires that the reference(s) relied upon be enabling in that it put the public in possession of the claimed invention.” M.P.E.P. § 2145. Furthermore, “[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the results would have been predictable to one of ordinary skill in the art” at the time the invention was made. M.P.E.P. § 2143.01(III),

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<sup>1</sup> The Final Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicant declines to automatically subscribe to any statement or characterization in the Final Office Action.

internal citation omitted. Moreover, “[i]n determining the differences between the prior art and the claims, the question under 35 U.S.C. § 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious.” M.P.E.P. § 2141.02(I), internal citations omitted (emphasis in original).

“[T]he framework for the objective analysis for determining obviousness under 35 U.S.C. 103 is stated in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966) . . . The factual inquiries . . . [include determining the scope and content of the prior art and] . . . [a]scertaining the differences between the claimed invention and the prior art.” M.P.E.P. § 2141(II). “Office personnel must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art.” M.P.E.P. § 2141(III). In this application, a *prima facie* case of obviousness has not been established because the Final Office Action has neither properly determined the scope and content of the prior art nor properly ascertained the differences between the claimed invention and the prior art. Accordingly, the Final Office Action does not clearly articulate a reason why the prior art would have rendered the claimed invention obvious to one of ordinary skill in the art.

Independent claim 1 recites a digital watermark embedding apparatus comprising, among other things, “a randomizing-function generation unit configured to generate, based on the key information, a randomizing function by mapping from a first space to a second space, and compute a composite function by composition of the randomizing function and the topological function, the first space and the second space including a target space concerning embedding amounts” (emphasis added).

*Muratani* discloses a digital watermark embedding apparatus that embeds watermarks into digital content by obtaining a topological invariant corresponding to watermark information and modifying the digital content into which the watermark information is embedded (*Muratani*, abstract). *Muratani*’s apparatus includes a randomizing section for generating random numbers using key information (*Muratani*, ¶ 265). However, as conceded by the Examiner, *Muratani* fails to disclose computing a composite function (Final Office Action at p 4). Moreover, *Muratani*’s randomizing section does not map a first space to a second space, and *Muratani* does not disclose or suggest a first or second space that includes a target space. Therefore, *Muratani* does not teach or suggest “a randomizing-function generation unit configured to generate, based on the key information, a randomizing function by mapping from a first space to a second space, and compute a composite function by composition of the randomizing function and the topological function, the first space and the second space including a target space concerning embedding amounts” as recited by independent claim 1 (emphasis added).

*Alattar* discloses an embedder that uses spread spectrum modulation to create a watermark signal (*Alattar*, ¶ 119). The embedder uses a modulator to perform an XOR operation between a raw bit and a pseudo random binary number, and scatters these “chips” throughout an image block (*Alattar*, ¶¶ 119-122). However, *Alattar*’s embedder does not generate a function by mapping from a first and second space. Moreover, *Alattar* does not teach or suggest a first and second space including a target space. Therefore, *Alattar* does not teach or suggest “a randomizing-function generation unit configured to generate, based on the key information, a randomizing function by mapping from a first space to a second space, and compute a composite function by composition of the randomizing function and the topological function, the first space and the second space including a target space concerning embedding amounts,” as recited by independent claim 1 (emphasis added).

In view of the above, the Final Office Action has neither properly determined the scope and content of the prior art nor properly ascertained the differences between the prior art and the claimed invention. Accordingly, the Final Office Action does not clearly articulate a reason why independent claim 1 would have been obvious to one of ordinary skill in view of the art. Therefore, a *prima facie* case of obviousness has not been established and the Examiner should withdraw the rejection of independent claim 1 under 35 U.S.C. § 103(a).

Independent claims 10 and 19-22, although of different scope from claim 1 and from each other, recite elements similar to those discussed above with respect to claim

1. Accordingly, for at least the reasons discussed above with respect to claim 1, no *prima facie* case of obviousness has been established for claims 10 and 19-22.

Therefore, the Examiner should withdraw the rejection of claims 10 and 19-22 under 35 U.S.C. § 103(a).

Claims 2-9 depend from claim 1 and claims 11-18 depend from claim 10, and therefore include all the elements recited therein. Accordingly, no *prima facie* case has been established with respect to claims 2-9 and 11-18 at least due to their dependence. Therefore, Applicant respectfully requests the Examiner to withdraw the rejection of claims 2-9 and 11-18 under 35 U.S.C. § 103(a).

**II. Conclusion**

In view of the foregoing, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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Dated: December 28, 2007

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